

REMARKS

In view of the above amendments and the following remarks, reconsideration and further examination are respectfully requested.

I. Amendments to the Claims

Claims 7 and 15 have been cancelled without prejudice or disclaimer of the subject matter contained therein.

Further, claims 1 and 12 have been amended to clarify features of the invention recited therein and to further distinguish the present invention from the references relied upon in the rejections discussed below.

Support for these amendments can be found, at least, in cancelled claims 7 and 15, and Fig. 2 and paragraphs [0061], [0071] and [0072] of the publication of the present application (see U.S. 2009/0027389). As a result, no new matter has been added.

II. 35 U.S.C. § 103 Rejections

Claims 1, 4, 5, 7, 8 and 12-15 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Dowdell (U.S. 5,301,263) and Gardiner (U.S. 6,052,125). Further, claims 9 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dowdell, Gardiner and Narayanaswami (U.S. 6,160,557). These rejections are believed clearly inapplicable to amended independent claims 1 and 12 and the claims that depend therefrom for the following reasons.

Amended independent claim 1 recites a three-dimensional shape drawing device including, in part, (i) a depth value calculation section, (ii) a high order Z-buffer memory, (iii) a

low order Z-buffer memory (for retaining low order bits of a depth value of a pixel to be displayed as a front face, such that a number of the low order bits is equal to or larger than a number of high order bits retained in the high order Z-buffer memory), (iv) a high order Z-buffer clearing section for clearing the high order Z-buffer memory by initializing a depth value of the pixel to be displayed as the front face and retained by the high order Z-buffer memory with a predetermined value (the predetermined value indicates one of a shallowest depth value and a deepest depth value, such that, when the predetermined value is not the deepest depth value, the predetermined value is the shallowest depth value), and (v) a low order Z-buffer clearing section for clearing the low order Z-buffer memory by initializing the depth value of the pixel to be displayed as the front face and retained by the low order Z-buffer memory. Finally, claim 1 recites that the high order bits (of the depth value of the pixel to be displayed as the front face and retained by the high order Z-buffer memory) and the low order bits (of the depth value of the pixel to be displayed as the front face and retained by the high order Z-buffer memory) are separately initialized upon clearing the high order Z-buffer memory via the high order Z-buffer clearing section and the low order Z-buffer memory via the low order Z-buffer clearing section.

Initially, the Applicant notes that the second paragraph of the continuation sheet of the Advisory Action states that “there is no explicit claim language regarding initializing the high order bits and low order bits separately upon clearing the Z-buffer memory.”

However, as described above, claim 1 has been amended to clarify that the high order bits and the low order bits are separately initialized by the high order Z-buffer clearing section and the low order Z-buffer clearing section, respectively. As a result, it is respectfully submitted that Gardiner, which was relied upon for teaching the features of the Z-buffer clearing section, now

fails to disclose or suggest the above-mentioned distinguishing features now recited in amended claim 1.

Rather Gardiner merely teach that a full buffer is initialized to the furthest possible depth value, which essentially means that the full buffer is initialized in batch processing (see col. 11, lines 33-40).

Thus, in view of the above, even though Gardiner teaches that the full buffer is initialized to the furthest possible depth value, such that the full buffer is initialized in a batch process, Gardiner still fails to disclose or suggest that the high order bits and the low order bits are separately initialized upon clearing the high order Z-buffer memory via the high order Z-buffer clearing section and the low order Z-buffer memory via the low order Z-buffer clearing section, as recited in claim 1.

Therefore, because of the above-mentioned distinctions it is believed clear that claim 1 and claims 4, 5, 8-10 and 17 that depend therefrom would not have been obvious in view of the combination of Dowdell and Gardiner.

Furthermore, there is no disclosure or suggestion in Dowdell and/or Gardiner or elsewhere in the prior art of record which would have caused a person of ordinary skill in the art to modify Dowdell and/or Gardiner to obtain the invention of independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 and claims 4, 5, 8-10 and 17 that depend therefrom are clearly allowable over the prior art of record.

Regarding dependent claims 9 and 10, which were rejected under 35 U.S.C. § 103(a) as being unpatentable over Dowdell and Gardiner (main references) in view of Narayanaswami (additional reference), it is respectfully submitted that this additional reference does not disclose or suggest the above-discussed features of independent claim 1, which are lacking from the main

references. Therefore, no obvious combination of the main references with the additional reference would result in, or otherwise render obvious, the invention recited independent claim 1 and the claims that depend therefrom.

Amended independent claim 12 is directed to a method and recites features that correspond to the above-mentioned distinguishing features of independent claim 1. Thus, for the same reasons discussed above, it is respectfully submitted that independent claim 12 and claims 13 and 14 that depend therefrom are allowable over the prior art of record.

III. Conclusion

In view of the above amendment and remarks, it is submitted that the present application is now in condition for allowance and an early notification thereof is earnestly requested. The Examiner is invited to contact the undersigned by telephone to resolve any remaining issues.

Respectfully submitted,

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